

CLAIMS

1. A method for the production of a water-soluble porous polymer comprising a step of polymerization of an aqueous monomer solution while having bubbles contained in the monomer solution, thereby obtaining the porous polymer having a water-insoluble content of not more than 10 wt.%.
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2. A method according to claim 1, wherein said monomer solution contains an ethylenically unsaturated monomer.

3. A method according to claim 1 or claim 2, wherein the volume of the water-soluble porous polymer after completing polymerization is 1.1 - 20 times the volume of said aqueous monomer solution prior to the polymerization.
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4. A method according to any of claims 1 - 3, wherein said bubbles are generated by the addition of a foaming agent.

5. A method according to any of claims 1 - 4, wherein said aqueous monomer solution further contains a surfactant.
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6. A method according to any of claims 1 - 5, wherein said bubbles are contained by the stirring and mixing of a gas.

7. A method according to any of claim 1 - 6, wherein said polymerization is effected in the form of thermal polymerization and/or photopolymerization.
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8. A method according to any of claims 2 - 7, wherein said ethylenically unsaturated monomer is acrylic acid and/or a salt thereof.
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9. A water-soluble porous polymer formed by polymerizing an aqueous monomer solution containing an ethylenically unsaturated monomer, which polymer has a voids ratio in the range of 5 - 80% based on the volume of the polymer and a water-insoluble content of not more than 10 wt.%.
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10. A powdered water-soluble porous polymer obtained by crushing a water-soluble porous polymer set forth in claim

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11. A water-soluble porous polymer set forth in claim 9, utilized as at least one member selected from the group consisting of tackifier, waste water cleaning agent, dispersant, pigment, coating material, agent for treating excavated soil, concrete admixture, adhesive agent, carrier for immobilizing organism, flocculant for sewage disposal and industrial wastewater disposal, tackifier for wall plates, water-retaining agent for excavation, stabilizer for viscosity of dispersed solution, water treating agent, ion sequestering agent, cleaner builder, and damping agent for ceramics.

12. A water-soluble porous polymer set forth in claim 10, utilized as at least one member selected from the group consisting of tackifier, waste water cleaning agent, dispersant, pigment, coating material, agent for treating excavated soil, concrete admixture, adhesive agent, carrier for immobilizing organism, flocculant for sewage disposal and industrial wastewater disposal, tackifier for wall plates, water-retaining agent for excavation, stabilizer for viscosity of dispersed solution, water treating agent, ion sequestering agent, cleaner builder, and damping agent for ceramics.